

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application.

1. (Currently Amended) A process for evaluating the hermeticity of a wafer connection, the process comprising:

manufacturing a test structure by:

forming a micromechanical sensor structure and an adjacent melt structure with electric strip conductors and first contacting islands which are connected with the micromechanical sensor structure and second contacting islands which are connected with the melt structure on a base wafer, and

creating a cavity by connecting a cover wafer with the base wafer so that the micromechanical sensor structure and the melt structure are located in the cavity; and

impressing a current into the second contacting islands in order to cause the melt structure to melt for the purpose of the hermeticity test of the cavity, whereby a change in pressure is generated in the interior of the cavity, which the change has in pressure having a chronological course which is and being measured by means of with the micromechanical sensor structure to obtain measuring values, wherein the test structure being under the generated pressure change is subjected to a stress condition and wherein information on a reliability is obtained by comparing the measuring values of the micromechanical sensor structure before and after the exertion of the stress condition.

2. (Previously Presented) The process according to claim 1, further comprising manufacturing several microelectromechanical structures on the wafer connection.

3. (Previously Presented) The process according to claim 2, wherein several test structures are produced at specific points of the wafer connection.

4. (Previously Presented) The process according to claim 3, wherein the several test structures are disposed in accordance with predetermined criteria of quality monitoring for the microelectromechanical structures.

5. (Cancelled)

6. (Currently Amended) A process for monitoring the function of a microelectromechanical structure, the process comprising:

manufacturing a test structure by:

forming a micromechanical sensor structure and an adjacent melt structure with electric strip conductors and first contacting islands which are connected with the micromechanical sensor structure and second contacting islands which are connected with the melt structure on a base wafer, wherein the melt structure has several rated melting points successively activated by a melting process; and

creating a cavity by connecting a cover wafer with the base wafer so that the micromechanical sensor structure and the melt structure are located in the cavity;

manufacturing the microelectromechanical structure so that it forms a functional bond with the test structure;

operating the microelectromechanical structure;

impressing a current into the melt structure of the test structure; and

evaluating the providing measuring values of the micromechanical sensor structure in order to implement measuring results for an online monitoring of the microelectromechanical structure; and

evaluating the measuring results obtained from the micromechanical sensor structure in order to implement the online monitoring of the microelectromechanical structure.

7. (Cancelled)

8. (Currently Amended) A test structure for evaluating the hermeticity of wafer connections comprising:

an area of a base wafer and an area of a cover wafer,
a cavity that is formed by a wafer connection of the base wafer and the cover wafer,
a pressure-sensitive micromechanical structure that is disposed in the cavity,
a melt structure that is disposed in the cavity, wherein several rated melting points are provided in the melt structure, the rated melting points defined by a design of the melt structure for allowing a limited number of melting processes to be successively repeated,
first contacting islands that are located outside the cavity and connected with the pressure-sensitive micromechanical structure [[(3)]],
second contacting islands that are disposed outside the cavity and connected with the melt structure, and
strip conductors that form a connection from the melt structure to the second contacting islands and from the pressure-sensitive micromechanical structure to the first contacting islands.

9. (Cancelled)

10. (Previously Presented) The test structure according to claim 8, wherein the melt structure is composed of metal.

11. (Original) The test structure according to claim 10, wherein the metal contains aluminum.

12. (Currently Amended) The test structure according to claim 8 wherein, in the case of a current flow, melting parts of the melt structure extend in a meander-like fashion in the cavity during a current flow.

13-17. (Cancelled)